

Proposal Phase Document (Ryder AAI Logistics)

(Logistics Planning System - LPS)

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Ryder IT



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Section 1 – Overview

1.1 Executive Overview

Background:

Currently, the Ryder Automotive unit uses an internally developed data management tool named the Automotive Planning Systems (APS). APS was initially developed more than six years ago for the Automotive OEM market and is relatively defect-free in meeting the LLP requirements of plant logistics analysts. However, the simplistic design of APS has not kept pace with changing requirements from logistics engineering. Today, Ryder's Automotive strategies target Tier-1 Suppliers and the downstream Supply Chain. Current business requirements have evolved 1.) from a plant-centric model to a network model, 2.) from a single customer view to a multicustomer model, 3.) from a relatively static transportation design to a more dynamic transportation network, and 4.) from a standalone database and manual process to an integrated desktop tools environment.

Reason for Project:

The Ryder Automotive Logistics Unit requires a local database management system to support strategic and tactical network design and planning processes. Major processes include network modeling, configuration, and dynamic analysis of route designs and shipments using third-party desktop tools. The benefits to be gained by this proposal include:

- 1. Technology enablement of the Shared-Source Network and enhanced Logistics Management Services capabilities.
- 2. Desktop integration with frequently used tools including, i2 Transportation Modeler, Maxload, ILPS, and various other MS-Access based tool-kits developed by Automotive Logistics Engineering. This integration does not exist today and as a result is a cumbersome process.
- 3. Provide a network-centric model to eliminate current plant-centric/LLP constraints that exists with current APS.
- 4. Effective management of increasing transportation volumes. Today's processes are manual with sub-optimal design and usability to meet tomorrows needs.
- 5. Multi-Account support. Today's system does not leverage a multi-customer network of suppliers.
- 6. Unified database and common code base. There are multiple instances of APS today resulting in higher than necessary maintenance and total cost of ownership.
- 7. Role based security and access to support changing work processes and enforce data integrity and reliability. Today's environment is manual and vulnerable/prone to user error.
- 8. User personalization of business rules while allowing for standardized enforcement of cross-account procedures.

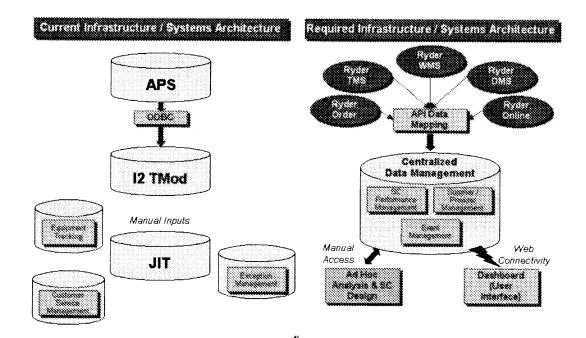
Longer Term Vision:

New Ryder services to be enabled and supported by LPS include customer data management, logistics releasing, or a completely bundled and integrated Supply Chain Manager solution. In support of the Shared Source Network and Supply Chain Manager, LPS is expected to interact with RyderOnline services including Order Management and Data Management, Ryder Execution systems such as ProAct/JIT, and Ryder TIS for reporting.

"Mission Critical" Capability Gaps — Technology



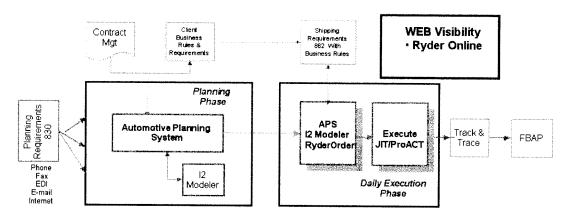
Ryder can start with existing capability but needs to migrate to an integrated approach over time.



Ryder Confidential & Proprietary Information

Architecture Overview

The architecture of Event management is displayed below:



Planning

- · Order Acceptance
- Order Aggregation
- * Shipment Planning & Load Building
- Routing and Continuous Move Identification
- Mode Selection
- · What-If Analysis

Execution

- · Load Tender & Confirmation
- Load Scheduling, Dispatch & Monitoring
- Expediting
- Track & Trace
- · Exception Reporting
- · Shipping Documentation
- Import/Export Documentation

Scope Summary:

The primary thrust of this project is to provide incremental improvement in the capabilities of LPS using a more robust and flexible architecture and allow for a more seamless integration with desktop tools and 3rd party applications.

- Implementation scope includes launching a new customer or one of Ryder's existing newer customers using the Visteon data model as the baseline.
- Geographic scope includes USA and Mexico.
- Financial scope is approximately \$240K.
- Timeline scope is approximately 6 calendar months, +/- 2 months.
- Functional scope includes:
 - Organizational contact information such as plants, suppliers, and carriers
 - o Packaging and release information
 - Routing information
 - o Desktop tools (ILPS, TM, Maxload) integration
 - Import/Export capabilities
 - Standard canned reports
 - o English and metric system to support units-of-measure and monetary currencies
 - Role based security and access

Assumptions:

- Key Project Team Members identified include, Tom Kroswek, John de Jesus, Scott Cormier, Tony Han, William Meyer, and John Holbel.
 - Leverage business knowledge and experience

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- Customer deployment and integration to be addressed via standard ACE Business Development Processes.
- Hardware infrastructure assessment is adequate for initial implementation.
- RyderOnline, RTP integration not included in scope.
- Microsoft technologies currently used to implement legacy APS, i.e. MS-SQLServer will be leveraged for LPS enhancements.

• Section 2 – Client Information

2.1 Client Company Overview

The Ryder AAI Unit revenues is approximately \$700M or greater than \$1B including international. Primary businesses include, logistics engineering, transportation management, inbound JIT, crossdocking, sequencing, carrier management, and service parts delivery. The Automotive segment has a Tier-1 Supplier Strategy that is aligned with the Shared Source Network and a positioned as a subset of the GSCS Supply Chain Manager initiative.

2.2 Contact List

		Ryder Staff			
Position / Function	Name	Office Phone	Cell Phone	e-Mail	
Executive Sponsor	Tom Jones				
Addi	ess			····	
V.P., IT	Kevin Bott				
Addı	ess				
Director of Logistics	Tom Kroswek	•			
Addr	ress			······································	
Logistics Manager	John de Jesus				
Addr	ess				
Logistics Engineer	Scott Cormier				
Addr	ess				
Product Mgr	Tony Han				
Addr	ess			******	
IT Developer	William Meyer				
Addr	ess			······································	
IT Director	Jimmy Herndon	f	1		
Addr	ess				
IT Project Manager	John Holbel				

Section 3 – Client Requirements

3.1 RFP / RFI / Client Requirement Documents

1. Enhance APS to support multi-account network wide routing capabilities.

- Part detail, shipments, loads, routes, runs
- Views from route perspective drilling into loads then into stops and resulting schedules.
- View from shipment/trip to see what loads are involved to complete trip.
- View from particular location stop, origin, destination, crossdock, any point and look at loads...
- Attach to the planned route layer execution details such as window times, drops, pickups
- Provide capability for mixed-account routes and multi-account volumetric analysis
- Support volumetric analysis for weights and cubes over pre-defined time interval over planned routes
- Chrysler OEM & Tier-1 Perspectives

2. Enhance Release Information Management Capabilities

- Cross-tabulated view of release quantities covering the time period in EDI 830 and 862.
- Chrysler OEM & Tier-1 Perspectives

3. Provide normalized Organization & Contact Information

- Use DCX as baseline db model
- Use Case Modeling, process meetings, documentation, including page navigation
 - Organizations, persons, production time, timezones, country, state, (13 entities)
- Prototype

4. Enhance Packaging Information Management Capabilities

- Use DCX as baseline db model for packaging with some Visteon Tier-1 view/perspective
 - o Packaging, Containers, Pallets, Equipment Types, Modes,
 - o Each entity has maintenance screen, somewhat repetitive (fewer entities than org)
 - Cube calculation, sub-calculations, real-time calculations/live-links to container pallets
 - o Additional equipment types, drop-decks, for more and more accurate cubing, TA

5. Provide following Network Route User Interface Views

Route View

- Offer selection of route fields to search or filter on
- Show list of routes
- For a given route, offer the option to:
 - o See an editable view of the route
 - See its loads (see load view)

Shipment View

- Offer selection of shipment fields to search or filter on
- Show list of shipments
- For a given shipment, offer the option to:
 - See an editable view of the shipment
 - See its loads (see load view)
 - See its packages

Location View

- Offer selection of locations to search on
- For a given location, show its loads (see load view)

Load View

- Show list of loads
- For a given load, offer the option to:
 - o See an editable view of the load
 - See a list of stops
 - See a list of related routes (see route view)
 - See its schedule

Stop View

- Show list of stops
- For a given stop, offer the option to:
 - o See an editable view of the stop
 - See a list of shipments (see shipment view)
 - See its itinerary

Explorer View

- Show a "flattened" view where each row is a join of route, load, and stop.
- Provide capability to "zoom" into views of the selected route, load, or stop.

6. Reporting Requirements

- Route Detail (this may end up being several reports)
- TA Sheets
- Shipment
- System Miles
- Avg. Frequency
- Frequency Impact (changes from current to proposed)
- Inventory Impact (changes to daily dollar values)
- New and Obsolete Parts
- New and Obsolete Suppliers
- Intranet front-end
- Acceptance Testing
- Deployment

7. Provide User Administration Framework

- Security, Access, Startup, Shutdown
- Role Based
- Detailed Req's Defn
- User Presentation Layer for Administrators

8. Provide Desktop Tools Integration

- ILPS
- Maxload
 - i. Meet to discuss features stacking multi-customer parts and complete process
 - ii. Snapshot and relating to data at time graphic was generated
 - iii. ODBC I/F.
 - iv. User Screen to Export from LPS to MS-Access
 - v. Save JPG as external file with pointer in LPS

• I2 Transportation Modeler

i. Predesigned via routing

9. Provide General Application Infrastructure

- Store both metric and English.
- User Profile indicates which unit of measure the user wishes to see and edit in.
- Currency field will indicate the type of currency for all cost fields. No support for translation either during entry or display.
- All time will be stored in local time with another field indicating the time zone.

Section 4 – Project Information

4.1 Scope Document

Functional Scope

- 1. Information Scope includes, Packaging Maintenance, Plant and Supplier Contacts Maintenance, Container Mgmt, Releases, and Routes as defined in client requirements.
- 2. Unified Data Model Design and Implementation
- 3. Common Code Base
- 4. System Testing
- 5. Middleware Services installation
- 6. MSDN Developers Subscription including toolkit, widgets, and Visual Studio development tools
- 7. Reports as defined in client-requirements
- 8. User administration, security, and access as defined in client-requirements
- 9. Mexico and USA Implementation Support

Geographic Scope

Infrastructure and development environment provided within Farmington office.

<u>User Scope</u>

LPS user base located in Farmington office

Financial Scope

Reference Cost Model

Time Scope

Reference attached Timeline Alternatives and Staffing Alternative Plans.

Documentation Scope

Systems documentation include design, data model, use-cases processes models, and support documents.

Business team to provide user documentation.

4.2 Project Phases

TBD – Reference attached timeline alternatives and staffing plans.

4.3 Limitations / Out-of-Scope

- Hardware environment not included in scope
- Client integration not included in scope
- EDI integration not included in scope
- Help-desk not included in scope
- On-going support not included in scope
- Service Level Agreement and Disaster Recovery not included in scope
- Account migrations of legacy APS not included in scope
- RyderOnline and RTP integration not included in scope
- Travel and expenses not included in scope
- User tools, software, and hardware not included in scope
- System not sized for large volumes. (Architecture is scaleable to support larger volumes when required.)
- Graphical user navigation of networking routing structures within LPS is not included in scope for this release of LPS.
- User documentation and training program not included in scope.
- Regression testing and automated testing tools not included in scope.

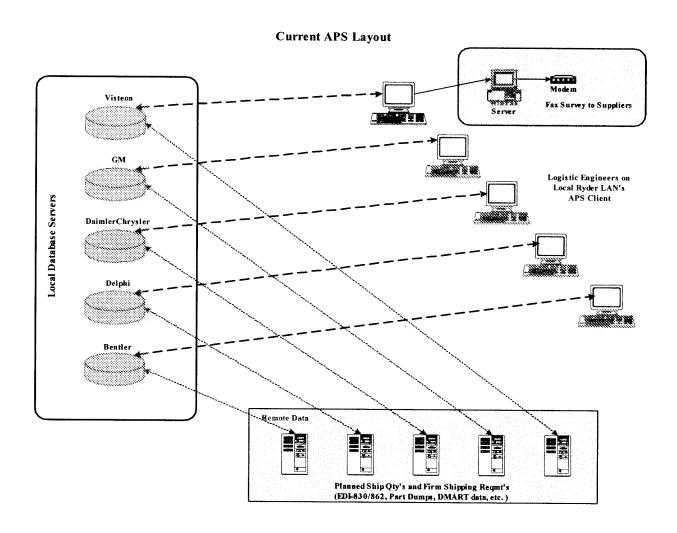
4.4 Critical Success Factors

- Business Team is actively engaged in priority setting for development team towards effective sharing of resources with non-LPS projects.
- Business Team is actively engaged and responsible for prototyping user interfaces and process flows. (with facilitation and assistance from IT)
- Business Team is actively engaged and responsible for define, developing, and executing user acceptance test cases during systems design processes. (with facilitation and assistance from IT)
- Business Team provides user documentation and training materials.

4.5 Project Assumptions

- 1. Current system hardware capacity is adequate and MS Server 2000 deployed
- 2. 8am to 5pm ET Support
- 3.

4.6 As-Is Current Systems Model



4.7 Project Information / Data

4.7.1 Preliminary Route Design Analysis

This is a first-cut design analysis for LPS Route subsystem.

Terms and Definitions.

Shipment

A physical collection of packagings that moves between any two locations Refers to: locations, packages

Load

A move of one or more shipments via a sequence of stops such that the move starts and ends with an empty truck. At each stop, shipments may be picked up or dropped off. Drop-offs must be in reverse order of pick-up.

Refers to: shipments, stops

Location

A place possessing a physical address

Stop

A pick up and drop off location that is part of a load.

Refers to: shipments, location, and loads

Route

A continuous move composed of two of more loads (aka Trip in Tpt. Modeler).

Itinerary

Scheduled set of loads for a given route, composed of a single window time for each stop.

Trip

A running instance of a route

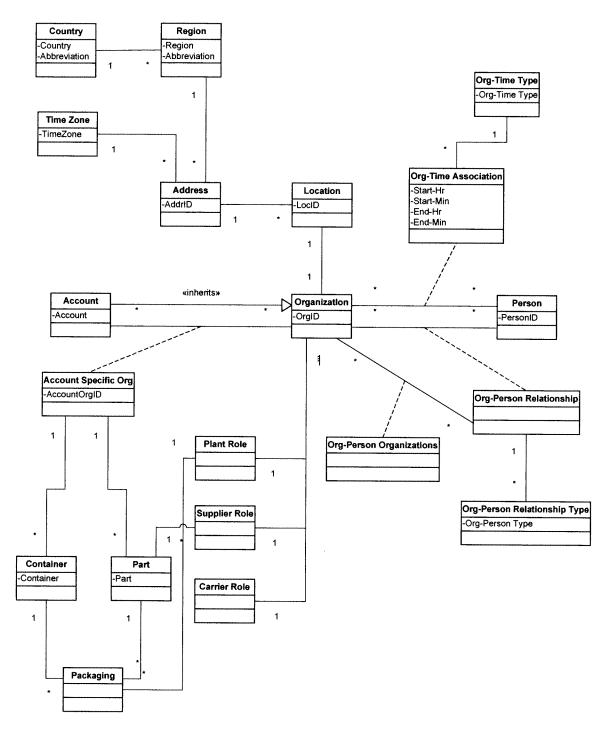
Schedule

A set of route itineraries

4.7.2 Routing Entities

Shipment			
ShipmentID	Drimory Icay		
OriginID	Primary key Originating location (FK to Location)		
PickUpWindow	Earliest and latest pickup times		
DestinID			
	Destination location (FK to Location)		
DropOffWindow	Earliest and latest dropoff times		
EquipmentType	Equipment type in use for shipment on first load		
Account	Account owning this shipment (FK to Account)		
Cube	Dimensional data		
Weight	Weight data		
Shipment_Package			
ShipmentID	Primary key (FK to Shipment)		
PackagingID	Primary key (FK to Packaging)		
Load_Shipment			
LoadID	Primary key (FK to Load)		
StopNo	Primary key (FK to Stop)		
ShipmentID	Primary key (FK to Shipment)		
Action	Pick-up or drop-off		
Load			
LoadID	D.: 1		
	Primary key		
EffectiveDate TerminateDate	Date when load can be active		
·····	Date when load is terminated		
Route Type	Type of route: TL, LTL, MR, etc.		
PrimaryCarrier			
SecondaryCarrier			
Equipment Type			
Domicile	Carrier domicile used in this load		
Weight			
Cube			
Stop			
LoadID Primary key (FK to Load)			
StopNo	Primary key		
LocID	Location of the stop (FK to Location)		
ServiceTime			
TransitTime	Time from prior stop		
Distance Distance from prior stop			
A			

Route			
RouteID	Primary key		
Scenario	Primary key		
Version	Primary key		
Route Load			
RouteID	Primary key (FK to Route)		
LoadID	Primary key (FK to Load)		
Schedule			
ScheduleID	Primary key		
LoadID	FK to Load		
WeekSet	Set of days of the week when an itinerary may begin		
Itinerary			
ScheduleID Primary key (FK to Schedule)			
LoadID			
StopNo			
DayOfWeek	Day of the week of arrival at stop		
ArriveTime	Arrival Time		
DepartTime	Departure Time		

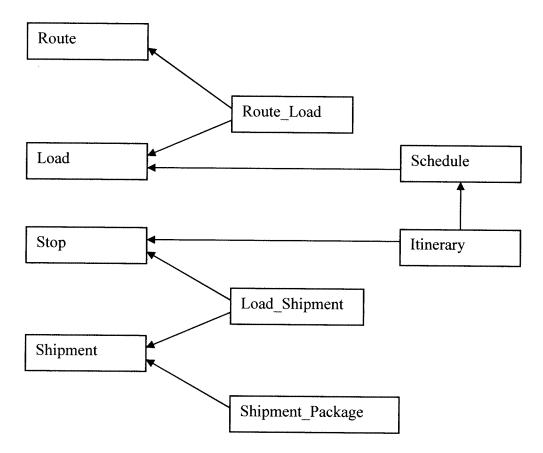


Domain Analysis

Classes

Class	Description		
Account	An Organization that represents a customer to Ryder.		
Account Specific	Maintains account specific identifiers and information for		
Org	organizations (plants, suppliers, carriers, etc). A given plant		
	belonging to an account may be a supplier for another account.		
Address	Validated City-State-Postal Code combinations.		
Carrier Role	Information about a carrier when it plays a role of a carrier.		
Container	Container types used to ship Parts.		
Country	Countries of the world.		
Location	Location information at the shipping point level.		
Organization	Organization can be any unit of business or work group that has a meaningful business identity.		
Org-Person	For a given relationship between an Organization and a Person,		
Organization	provides a listing of Organizations associated with that		
	relationship. For example, for a supplier contact list the account		
	plants this contact is responsible for.		
Org-Person	Relationship between an Organization and a Person.		
Relationship			
Org-Person	Types of relationships between an Organization and a Person.		
Relationship Type	Ex: supplier contacts, plant contacts, system user, etc.		
Org-Time	Time values associated with Organizations.		
Association	Ex: production hours, shipping hours.		
Org-Time Type	Types of time values associated with Organizations.		
Packaging	Parts shipped in containers to a plant.		
Part	Components produced by suppliers sold to a specific Account.		
Person	A person (contacts, users, employees, etc).		
Plant Role	Information about an Organization when it plays a role of an		
	account plant.		
Region	Regions (states and provinces) within each Country.		
Supplier Role	Information about an Organization when it plays a role of a		
	supplier to an account plant.		
Time Zone	Time zones of the world.		

Entity Relations Diagram



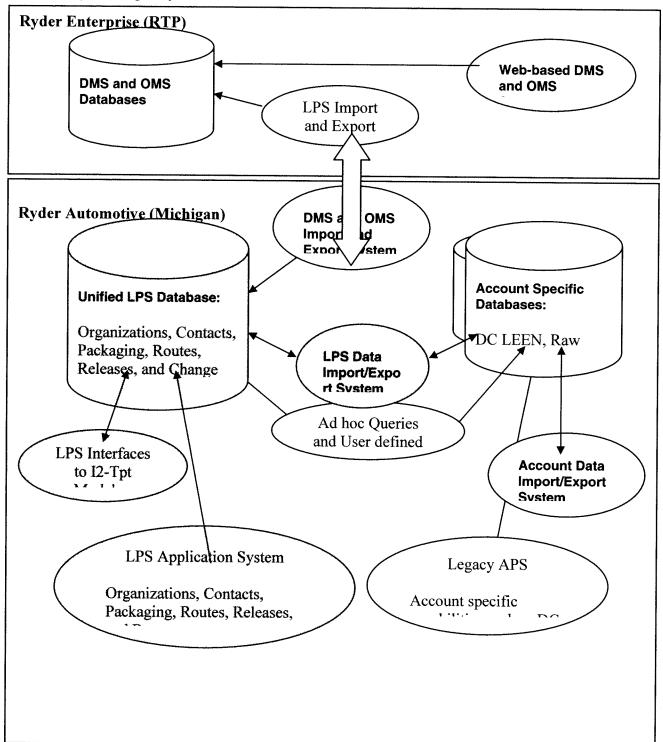
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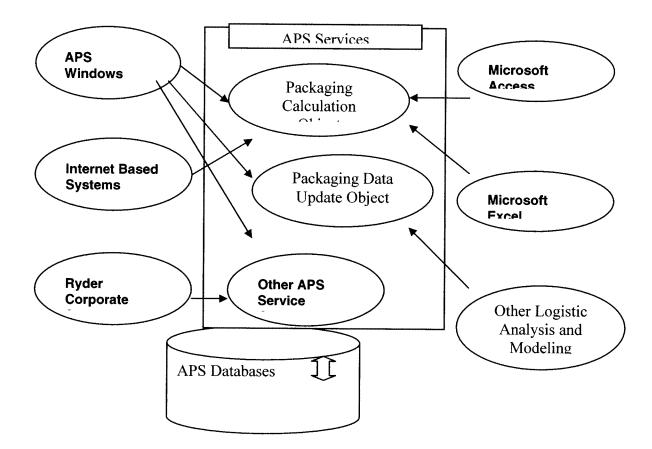
4.8 Risk / Risk Mitigation Strategy

Section 5 – Proposed Solution

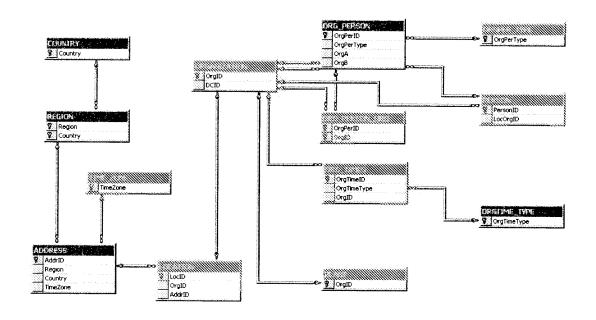
5.1 Proposed Solution

Conceptual Design - System Overview

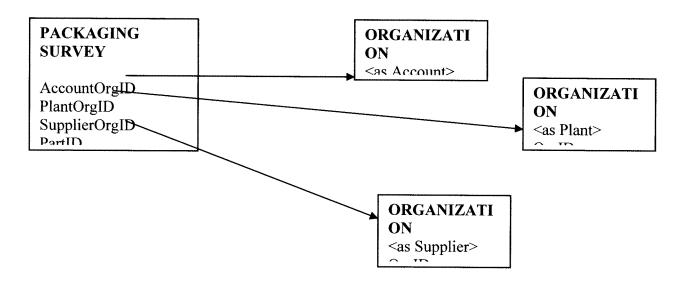




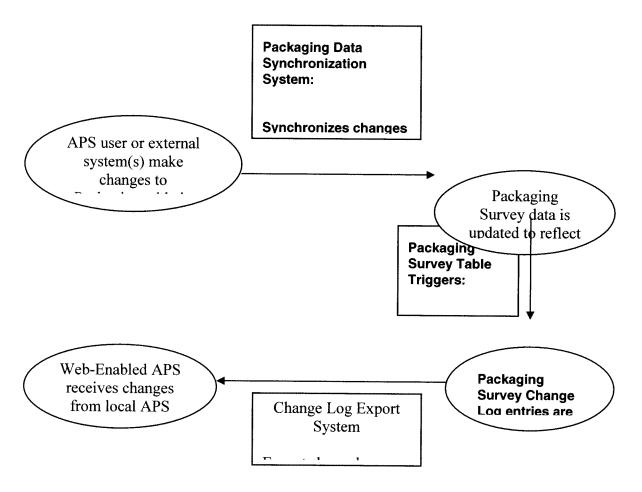
Organization and Contact Information Datamodel



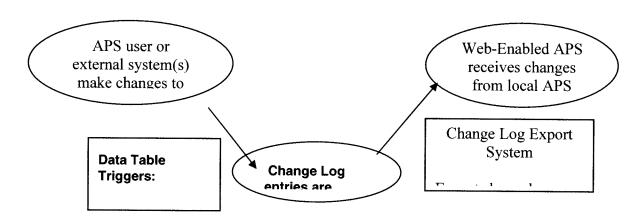
Packaging Survey Datamodel



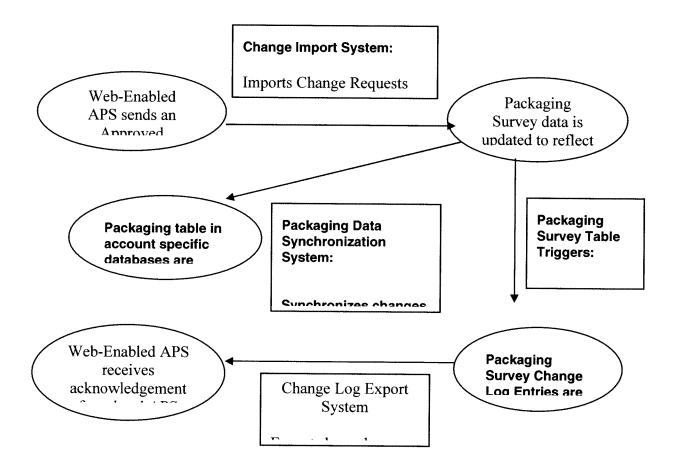
Packaging Data Change Export



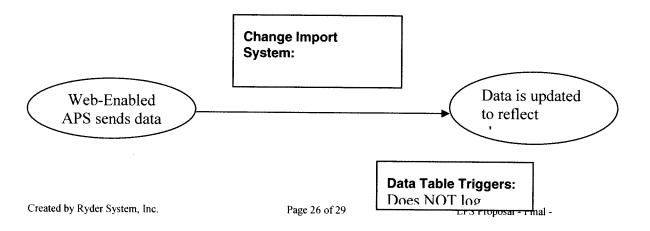
Organization and Contact Data Change Export



Packaging Data Change Import



Organization and Contact Data Change Import



Section 6 – Client Response Information

6.1 Response Text

Not Applicable

6.2 Cost Model

1. Detailed cost model TBD. Budget is defined within RCE and is approximately \$240K.

Section 7 – Revision Information

7.1 Revision Information

Revision Description	Date of Revision	Changed by	Comments	
1 st Draft	9/6/2002	John Holbel		
2 nd Draft	2/6/2003	John Holbel		
				-
Final Edition				

Section 8 – Approval and Ownership

8.1 Document Ownership Table

Document Owner / ITS PM	John Holbel	
GBS PM	Not Applicable	

8.2 Disclaimer / Approval Control Sheet

Signing/Approval of this document constitutes acceptance of the **proposed** solution included in this document between Ryder IT and Ryder AAI and all extended/interested parties of Ryder AAI. Ryder AAI is responsible for coordinating and achieving consensus with all Ryder AAI extended/interested parties to ensure acceptance of the solution contained herein. Ryder AAI signature/approval on these documents connotes that this client socialization and agreement has occurred. After the document is signed/approved, any changes are considered changes to the scope of the project and require additional review, approval and funding prior to implementation. Moreover, these changes will be delivered in business releases subsequent to the initial implementation, if they cannot be accommodated in the initial project timeline.

Name	Title	Date	Approval
John Holbel	IT PM	2/7/2003	
Jimmy Herndon	IT Director		
Tom Kroswek	Director of Logistics		
Tom Jones	Executive VP Sponsor		